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EXAMINER

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Please find below and/or attached an Office communication concerning this application or proceeding.

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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/563,385
Filing Date: January 05, 2006
Appellant(s): LI ET AL.

Robert B. Levy
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed December 23, 2008 appealing from the Office action mailed September 4, 2008.

Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

Claims Appendix

The statement of the status of claims contained in the brief is incorrect. A correct statement of the status of the claims is as follows: Claims 1-12 (Rejected). The appellant has incorrectly used the previously presented and original identifiers after each claim.

Evidence Relied Upon

US PGPUB 2003/0013452 A1	HUNT ET AL.	1-2003
US PGPUB 2003/0185178 A1	CHITRAPU ET AL.	10-2003

Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

The Final Rejection filed on September 4, 2008 is hereby reproduced for convenience.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

Art Unit: 2617

having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-12 are rejected under 35 USC 103(a) as being unpatentable over **Hunt et al. (US PG PUB 2003/0013452 A1, Hunt)** in view of **Chitrapu et al. (US PG PUB 2003/0185178 A1, hereinafter Chitrapu)**.

Consider **claim 1 (and similarly applied to claim 6)**. Hunt clearly show and disclose a method for achieving wireless communications in a network having at least one macro cell for communicating both voice and data with a mobile communications device across a first wireless link and, at least one micro cell, with a smaller coverage area and higher capacity per user than

Art Unit: 2617

the macro cell, for communicating data with the mobile communications device across a second wireless communication link, the method comprising (abstract, paragraphs 4-5, 10, 23, 28-30, read as a method for achieving cellular radio communication system, which comprises a plurality of pico cells 106 (figure 2) and an umbrella macro cell 102 (figure 2). The pico cell 102 is capable of voice telephony and data communications with a Mobile Station 110 (figure 2) using a sub-channel 212 (figure 2). In addition, the pico cells 106 pass data across a sub-channel 214 (figure 2) to a terminal 110 (figure 2) dedicated for higher data rates the steps of:

communicating signaling information between the one micro cell and the one macro cell via a third wireless channel; and controlling the operation of the micro cell responsive to the signaling information (abstract, paragraphs 4-5, 10, 23, 28-30, read as a communication channel between the secondary station and a primary station, which comprises control and data sub-channels for the respective transmission of control information and user data. This communication channel also provides a means for a data sub-channel between the secondary station and controlling primary station for the pico cell. The macro cell BS 104 has direct links (i.e. third wireless channel) to the pico cell base stations 108 included within the umbrella macro cell 102, and routes data to and from whichever is appropriate for current communications in a manner which is transparent to the network. In addition, when there is a data packet to be transmitted to the user (i.e. attempting to access the micro cell), the macro cell 102 routes the data to the identified pico cell 106. Moreover, the macro cell BS 104 may also instruct the chosen pico cell BS 108 to vary transmission parameters (such as data rate, transmission power) to modify the quality of the chosen link. In addition, Hunt discloses that the macro cell may also instruct the chosen pico cell to vary transmission parameters (i.e. signaling information)).

Art Unit: 2617

Hunt discloses the claimed invention except he fails to explicitly disclose that the micro cell and the one macro cell are directly communicating in response to access of the micro cell by the mobile communications device.

However, Chitrapu discloses that the micro cell and the one macro cell are directly communicating in response to access of the micro cell by the mobile communications device (paragraphs 74, 80, read as a C-plane server is directly connected to the RIP GW, which allows the sharing of resources for control signal processing in case such as the UE would access the RAN IP when moving outside of the RLAN).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have incorporated the teachings of Chitrapu into the invention of Hunt in order to enable connectivity to the public network using utilizing IP packet service (paragraphs 23, 74).

Consider **claim 2 and as applied to claim 1**. Hunt teaches the method wherein step of controlling the micro cell includes the step of managing access to the micro cell by the mobile communications device (Hunt; figure 2, paragraph 25, 29, 30).

Consider **claim 3 and as applied to claim 1**. Hunt teaches the method wherein the step of communicating signaling information via the third wireless channel includes the step communicating signaling information from each mobile communications device separately (Hunt; figure 2, paragraphs 23, 28-30).

Consider **claim 4 and as applied to claim 1**. Hunt teaches the method wherein the step of communicating signaling information via the third wireless channel includes the step of

Art Unit: 2617

encapsulating signaling information from a plurality of mobile communication devices in a common packet (Hunt; figure 2, paragraph 23, 28-30).

Consider **claim 5 and as applied to claim 1**. Hunt teaches the method further comprising the step of assigning to the mobile communication device codes and power settings to enable the mobile communication device to communicate with macro cell and micro cell simultaneously (figure 2, paragraphs 22-23 and 26).

Consider **claim 7 and as applied to claim 6**. Hunt and Chitrapu disclose wherein the control element comprises a Service General Packet Service Node (SGSN) (Chitrapu; paragraph 26).

Consider **claim 8 and as applied to claim 6**. Hunt teaches the system wherein the control element manages access to the micro cell by the mobile communications device (Hunt; figure 2, paragraphs 25, 29, 30).

Consider **claim 9 and as applied to claim 6**. Hunt teaches the system wherein each micro cells separately communicates signaling information from each mobile communication device across the third wireless channel (Hunt; figure 2, paragraphs 23, 28-30).

Consider **claim 10 and as applied to claim 6**. Hunt teaches the system wherein the signaling information of each of a plurality of micro cells is encapsulated into a common packet for communication across the third wireless communication channel (Hunt; figure 2, paragraphs 23, 28-30).

Consider **claim 11 and as applied to claim 6**. Hunt teaches the system wherein the control element assigns to the mobile communication device codes and power settings to enable

Art Unit: 2617

the mobile communication device to communicate with macro cell and micro cell simultaneously (Hunt; figure 2, paragraphs 22-23, 26).

Consider **claim 12 and as applied to claim 7**. Hunt and Chitrapu disclose wherein the control element further comprises: a Gateway General Packet Radio Serving Node (GGSN); and an Internet Protocol tunnel for linking the GGSN to an Internet Protocol gateway (Chitrapu; paragraph 24).

Response to Argument

Hunt discloses a cellular radio communication system that includes a macro BS 104 and pico cell base stations 108 (see figure 2, paragraph 23). Hunt states that there is a sub-channel between a terminal and a macro BS 104 (i.e. a first wireless link), a sub-channel between a terminal and pico base stations, and direct links to the pico cell base stations included with the macro cell, and routes data to and from whichever is appropriate for current communications (paragraphs 23 and 28). The examiner notes that the claim recites, a first wireless link, a second wireless communication link, and a third wireless channel. Hunt teaches two sub-channels (see figure 2 and observe the wireless links (212 and 214), which are read as the first two wireless links since Hunt's sub-channels performs the same functionality of the claimed invention in that the sub-channels are used for communication between the terminal and the macro cell and pico cell (i.e. micro cell), respectively. The examiner relies on Hunt's disclosure in paragraph 28, for the third wireless channel because Hunt states the direct communication between the macro cell and the pico cell as recited in the claims. The examiner further notes that there is no differentiation among the first wireless link, the second wireless communication link, and the third wireless channel. In other words, the claim can be interpreted as having one channel use

Art Unit: 2617

for three different functions. Therefore, Hunt discloses communicating signaling information between the one micro cell and the one macro cell via a third wireless channel and controlling the operation of the micro cell responsive to the signaling information. However, Hunt lacks that the micro cell and the one macro cell are directly communicating in response to access of the micro cell by the mobile communications device. Chitrapu is relied upon for this particular feature because Chitrapu discloses a direct connection to the RIP GW (gateway) when a user equipment (i.e. mobile communications device) moves within a RLAN (i.e. micro cell). In other words, there is direct communication between the RAN IP gateway (i.e. macro cell) and the RIP gateway (i.e. micro cell) when a user equipment moves (i.e. accesses) from the RAN to the RLAN (paragraphs 32, 74, 80). Therefore, Hunt in view of Chitrapu disclose “communicating signaling information directly between one micro cell and the macro cell via a third wireless channel in response to access of the micro cell by the mobile communications device.”

B1. Claims 1-12 are patentable and non-obvious over Hunt in view of Chitrapu, as configuring the communications channel between a macro cell and a pico cell of the Hunt system to be a wireless channel would change the network definition and configuration of Hunt.

With regard to applicant’s argument that claims 1-12 are patentable and non-obvious over Hunt in view of Chitrapu, as configuring the communications channels between a macro cell and a pico cell of the Hunt system to be a wireless channel would change the network definition and configuration of Hunt, the examiner respectfully disagrees. Hunt teaches a plurality of pico cells and an umbrella macro cell, where the pico cell is dedicated for higher data rates. The umbrella macro cell has direct links (i.e. third wireless channel) to the pico cells and routes data to and

Art Unit: 2617

from whichever appropriate for current communications. In addition, the umbrella macro cell may instruct the chosen pico cell to vary transmission parameters to modify the quality of the chosen link. Moreover, Hunt teaches that the umbrella macro cell may also instruct the chosen pico cell to vary transmission parameters, which is read as signaling information (paragraphs 4-5, 10, 23, 28-30). The only feature that Hunt was lacking was the direct communication between the micro and macro cell based on the access of the micro cell. Therefore, the addition of Chitrapu was used to show direct signaling between a macro cell and a pico cell. Chitrapu discusses a UE communicating with a Node B of the RLAN moves outside the RLAN service region, handover is implemented via the RAN IP gateway utilizing IP packet service, where there is a direct connection to the RIP GW. The examiner used this particular reference, since applicant's specification defines a micro cell as a wireless LAN and a macro cell as a WAN (paragraphs 74, 80). The examiner notes that applicant's indicate this on page 3 lines 29-31, "Within the UMTS network, a Gateway GPRS Support Node (GGSN) 24 provides an interface between the SGSN 22 and an IP network 26 depicted as a Wide Area Network (WAN) that could include a private data network." In addition, on page 4 lines 11-13, applicants discloses that "Each micro cell comprises a radio access node 32 (i.e., a "Node B") whose structure resembles the structure of an access point (not shown of the type found in wireless LANs." Chitrapu's RAN is analogous to applicant's WAN because Radio Access Network a collective term for the Node B's and Radio Network Controllers which make up the radio access network covering a large area and a WAN is a network that provides access to users that covers a broad area, which is not limited to a room, building, or campus. In addition, Radio Local Area Network (RLAN) are radio based networking systems to connect mobile devices to data networks in corporate,

Art Unit: 2617

public and/or home environments and WLAN is a network covering a small physical area, like a home, office, or small group of buildings, such as a school, or an airport. Therefore, the addition of this particular feature (i.e. direct signaling), would not change the network definition and configuration of Hunt because Hunt already has direct links (i.e. third wireless channel). The addition of Chitrapu's direct signaling would make Hunt's invention more efficient since there would be less signaling.

B2. Claims 1-12 are patentable over Hunt in view of Chitrapu because configuring the Hunt system to transmit signaling information to a pico cell in response to access of the pico cell by a mobile communications device would also change the principle of operation of Hunt.

With regard to applicant's argument that claims 1-12 are patentable over Hunt in view of Chitrapu because configuring the Hunt system to transmit signaling information to a pico cell in response to access of the pico cell by a mobile communications device would also change the principle of operation of Hunt, the examiner respectfully disagrees. As discussed above, Hunt already has direct links (i.e. third wireless channel). The addition of Chitrapu's direct signaling would make Hunt's invention more efficient since there would be less signaling.

B3. Claims 2 and 8

With regard to applicant's argument that none of the cited references, either taken singly or in any combination, teach or suggest, "wherein step of controlling the micro cell includes the step of managing access to the micro cell by the mobile communications device," the examiner respectfully disagrees. As indicated in the previous communications, the examiner cited Hunt to teach this particular feature in paragraphs 25, 29, and 30. More specifically, Hunt teaches that

Art Unit: 2617

the mobile station (MS) is able to determine which pico cell it is within, or from which pico cell it is receiving signals having the best signal to interference ratio (SIR). Therefore, the MS is acting as a manager in monitoring the pico cell and its performance.

As a result, the claims are written such that they read upon the cited references.

Conclusion

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

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C.M.B./cmb
May 6, 2009

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